

the second packing sleeve. The second packing sleeve defines therein an axially extended through hole. Further, the second packing device and the packing device are identical and exchangeable.

[0014] In another embodiment of the present invention, a plurality of connection members and a plurality of second packing devices are used in the cable and flexible conduit assembly, wherein each second packing device is mounted in the first axial hole of one connection member and the second axial hole of another connection member.

[0015] Thus, when a flexible conduit is mounted in the cable and flexible conduit gland assembly after insertion of a cable through the flexible conduit, the packing device that is set between the mounting member and the connection member is compressed to wrap about the periphery of the cable and to provide a first layer of airtight, waterproof, dustproof and anti-tensile protection, and the auxiliary clamping sleeve that is set between the connection member and the outer cap is compressed to wrap about the periphery of the flexible conduit and to provide a second layer of airtight, waterproof, dustproof and anti-tensile protection. Thus, the cable and flexible conduit gland assembly of the invention has a high IP rating, and is practical for dynamic mechanical and outdoor applications, as well as applications in a deep-water environments and high explosive atmospheres.

[0016] In still another alternate form of the present invention, the cable and flexible conduit gland assembly comprises a mounting member, at least one connection member, an outer cap, a packing device, and an auxiliary clamping sleeve. The mounting member is a tubular member, comprising a first outer thread. Each connection member comprises a second outer thread, a first axial hole, a first tapered surface defined in the first axial hole, and a first inner thread defined in the first axial hole and threaded onto the first outer thread of the mounting member. The outer cap comprises an axial through hole extending through two opposite ends thereof, a second tapered surface defined in the axial through hole, and a second inner thread defined in the axial through hole at one side relative to the second tapered surface and threaded onto the second outer thread of one connection member. The packing device comprises a packing sleeve mounted in the mounting member and the first axial hole of one connection member and defining therein an axially extended through hole, and a clamping member sleeved onto the packing sleeve. The auxiliary clamping sleeve is mounted in the axial through hole of the outer cap and one connection member, comprising a through hole axially extended through two opposite ends thereof, an outer race spaced around the periphery thereof, an annular mounting groove defined within the outer race, and an annular hooked portion defined in the annular mounting groove.

[0017] The cable and flexible conduit gland assembly of the invention has the benefits as follows:

[0018] When compared with conventional cable gland designs, the invention has the added connection member to provide enhanced protection and enhanced tensile strength. By means of increasing the number of the connection member, the protection and tensile strength levels are relatively enhanced.

[0019] By means of increasing the number of the connection member, the airtight strength of the cable and flexible

conduit gland assembly is enhanced to meet different industrial requirements for application under a high explosive atmosphere.

[0020] By means of increasing the number of the connection member, the watertight strength of the cable and flexible conduit gland assembly is enhanced to meet different industrial requirements for application in a deep-water environment.

[0021] By means of increasing the number of the connection member, the airtight strength of the cable and flexible conduit gland assembly is enhanced to meet different industrial requirements, preventing disconnection of the installed cable upon an impact.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] FIG. 1 is an elevational assembly view of a cable and flexible conduit gland assembly in accordance with the present invention.

[0023] FIG. 2A is an exploded view of the cable and flexible conduit gland assembly in accordance with the present invention.

[0024] FIG. 2B corresponds to FIG. 2A when viewed from another angle.

[0025] FIG. 3 is a longitudinal sectional view of the cable and flexible conduit gland assembly in accordance with the present invention.

[0026] FIG. 4 is an elevational assembly view of an alternate form of the cable and flexible conduit gland assembly in accordance with the present invention.

[0027] FIG. 5 is an exploded view of the cable and flexible conduit gland assembly shown in FIG. 4.

[0028] FIG. 6 is a longitudinal sectional view of the cable and flexible conduit gland assembly shown in FIG. 4.

[0029] FIG. 7 is a schematic sectional view of still another alternate form of the present invention, illustrating the configuration of the clamping skirt of the auxiliary clamping sleeve.

[0030] FIG. 8 is a schematic sectional view of still another alternate form of the present invention, illustrating the clamping member formed integral with the mounting member at an inner side of the first outer thread.

[0031] FIG. 9 is a schematic sectional view of still another alternate form of the present invention, illustrating the use of a different design of auxiliary clamping sleeve.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0032] Referring to FIGS. 1-4, a cable and flexible conduit gland assembly **100** for locking a flexible conduit **91** and a cable **90** to an electric box, machine, telecom box or network communication box in accordance with the present invention is shown. The cable and flexible conduit gland assembly **100** comprises:

[0033] a mounting member **10** that is a tubular member mounted in a board member **80** of an electric box, machine, telecom box or network communication box (see FIG. 7), comprising a first outer thread **11**;

[0034] a connection member **20** that comprises a second outer thread **21**, a first axial hole **22**, a first tapered surface **23** defined therein the first axial hole **22**, and a first inner thread **24** defined in the first axial hole **22** and threaded onto the first outer thread **11** of the mounting member **10**;